

Date: Monday, 05/01/2009 7:57:40 AM
 User: Linda Lacelle

Process Sheet

| | | | |
|-----------------------|--|------------------|-----------------|
| Customer | : CU-DAR001 Dart Helicopters Services | Drawing Name | : TUBE ASSEMBLY |
| Job Number | : 44354 | | |
| Estimate Number | : 11198 | | |
| P.O. Number | : | Part Number | : D3304041 |
| This Issue | : 05/01/2009 S.O. No. : | Drawing Number | : D3304 REV. B |
| Prsht Rev. | : NC | Project Number | : N/A |
| First Issue | : / / | Drawing Revision | : B |
| Previous Run | : 42108 | Material | : |
| | Type : MACHINED PARTS | Due Date | : 31/01/2009 |
| Written By | : | Qty: | 10 Um: Each |
| Checked & Approved By | : <u>JLD 09.01.05</u> | | |
| Comment | : Est: C 04.11.17 Step 13 revised KJ/JLM | | |

Additional Product

Job Number:



| | | |
|---------|-----------------------|---------------|
| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|

| | | |
|-----|----------------|-----------------------------|
| 1.0 | M304TR0875W065 | 304 round tube .875 x .065w |
|-----|----------------|-----------------------------|



Comment: Qty.: 1.4109 f(s)/Unit Total : 14.1089 f(s)
 Material: AISI 304/316 SS tubing 0.875" x 0.065" wall
 (M304TR0.875W.065)
 Identify for D3304-1
 Batch: 110472

88 09/01/23 (10)

| | | |
|-----|----------|----------|
| 2.0 | BAND SAW | BAND SAW |
|-----|----------|----------|



Comment: BAND SAW
 Cut to length

88 09/01/23

| | | |
|-----|-------------|--------------------|
| 3.0 | LATHE CONV. | CONVENTIONAL LATHE |
|-----|-------------|--------------------|



Comment: CONVENTIONAL LATHE
 Cut blank: 15.75" as per Dwg D3304
 Turn as per Dwg D3304
 Identify as D3304-1

88 09/01/23 (10)

| | | |
|-----|-----|--|
| 4.0 | QC2 | INSPECT PARTS AS THEY COME OFF MACHINE |
|-----|-----|--|



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

88 09/01/23 (10)

| | | |
|-----|-----|--------------|
| 5.0 | QC8 | SECOND CHECK |
|-----|-----|--------------|



Comment: SECOND CHECK

9m 09/01/23 (10)

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: D Date: 09/03/13
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|----------|------|--|----------------------------------|---------------------------------|----------------|---------------------------|----------------------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| 08.03.05 | 9 | SHAFT IS CURVED 1/16" FWD DUE TO WELDING. ONLY PART NEAR HEADREST AFFECTED. R.C. slushy too much heat. | UP 09.03.05 JW 08/01/02 | Acceptable. | BE 09/03/05 | S 09/03/05 | UP 09.03.05 JW 08/01/02 | S 09/03/05 |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Monday, 05/01/2009 7:57:40 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 44354

Part Number: D3304041

Job Number:



Seq. #: Machine Or Operation: Description :

6.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Deburr

Drill as per Dwg D3304 using drill Jig D3304-T1

Deburr

Mr. FF 09/01/27
09/01/27 (10X)

7.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

09/01/27 (10X)

8.0 D33045 Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

Bracket

Pick:

| Qty | Part Number | Description | Batch |
|-----|-------------|-------------|-------|
| 1 | D3304-5 | Bracket | 40907 |

BE 09/03/05

9.0 LARGE FAB 1 LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld bracket as per Dwg D3304 and QSI 004

(PB)
See previous
Page

BE 09/03/05

10.0 QC9 VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

ID 09-03-05

11.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

09/03/05 (10X)

12.0 POWDER COATING POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

12:00
380°
12:20

BR 09-03-06 (10)

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Monday, 05/01/2009 7:57:40 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 44354

Part Number: D3304041

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



10X

Comment: INSPECT POWDER COAT

M-1 09/03/06

14.0

BLBS0016

PIP PIN



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

PIP PIN

Pick:

| Qty | Part Number | Description |
|-----|-------------|-------------|
| 1 | BLBS-0016 | Pip Pin |

Batch

M110476 x4
M109544 x6

SS 09/03/06 (10)

15.0

CBL460

Loop Sleeve



Comment: Qty.: 2.0000 Each(s)/Unit Total: 20.0000 Each(s)

Loop Sleeve

Pick:

| Qty | Part Number | Description |
|-----|-------------|-------------|
| 2 | CBL-460 | Loop Sleeve |

Batch

M109062

SS 09/03/06 (10)

16.0

CBL1240

Cable



Comment: Qty.: 1.0417 f(s)/Unit Total: 10.4170 f(s)

Cable

Pick:

| Qty | Part Number | Description |
|-------|-------------|-------------|
| 12.5" | CBL-1240 | Cable |

Batch

M103927

FF 09-03-11

(10)

17.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble lanyard and pip pin as per Dwg D3304

FF 09-03-11

(10)

18.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

090311 (10)

19.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify with P/N and B/N as per Dwg using a permanent fine point marker, then Stock

Location: 188

9/3/10

10X

50

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Monday, 05/01/2009 7:57:41 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 44354

Part Number: D3304041

Job Number:



Seq. #:

Machine Or Operation:

Description :

20.0

QC21

FINAL INSPECTION/W/O RELEASE



10

Comment: FINAL INSPECTION/W/O RELEASE

09/03/13

Job Completion



mf
09-03-13

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

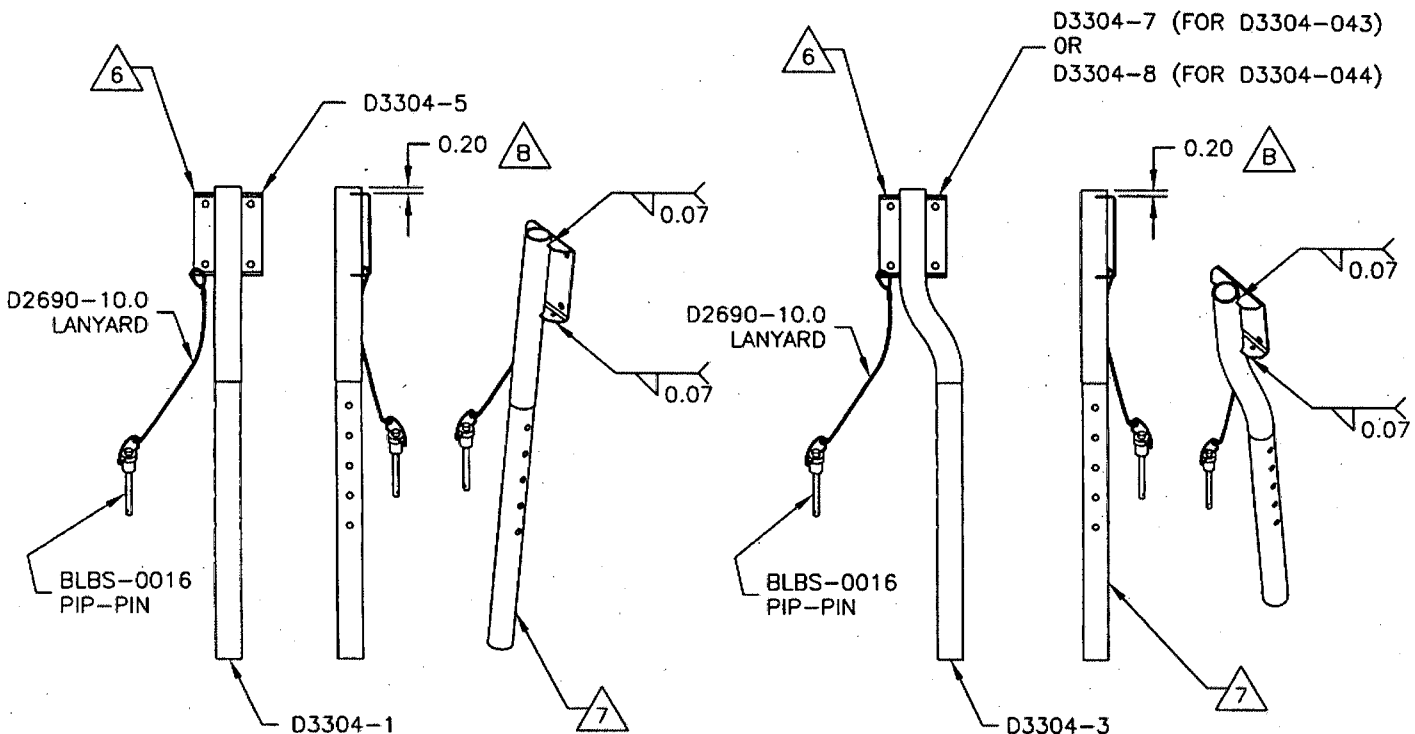
| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

DART

| DESIGN | RF | DRAWN BY | RF | DART AEROSPACE LTD |
|---------|----------|-----------------------------------|---------------|-----------------------------|
| CHECKED | | APPROVED | | HAWKESBURY, ONTARIO, CANADA |
| DATE | 05.07.15 | TITLE | D3304 | REV. B |
| | | | TUBE ASSEMBLY | SHEET 1 OF 4 |
| A | 04.08.18 | NEW ISSUE | | SCALE |
| B | 05.07.15 | UPDATE DIMENSIONS: ADD D3304-7/-8 | | 1:6 |

RELEASED
05-08-11



**D3304-044 TUBE ASSEMBLY (SHOWN)
D3304-043 OPPOSITE**

D3304-041 TUBE ASSEMBLY

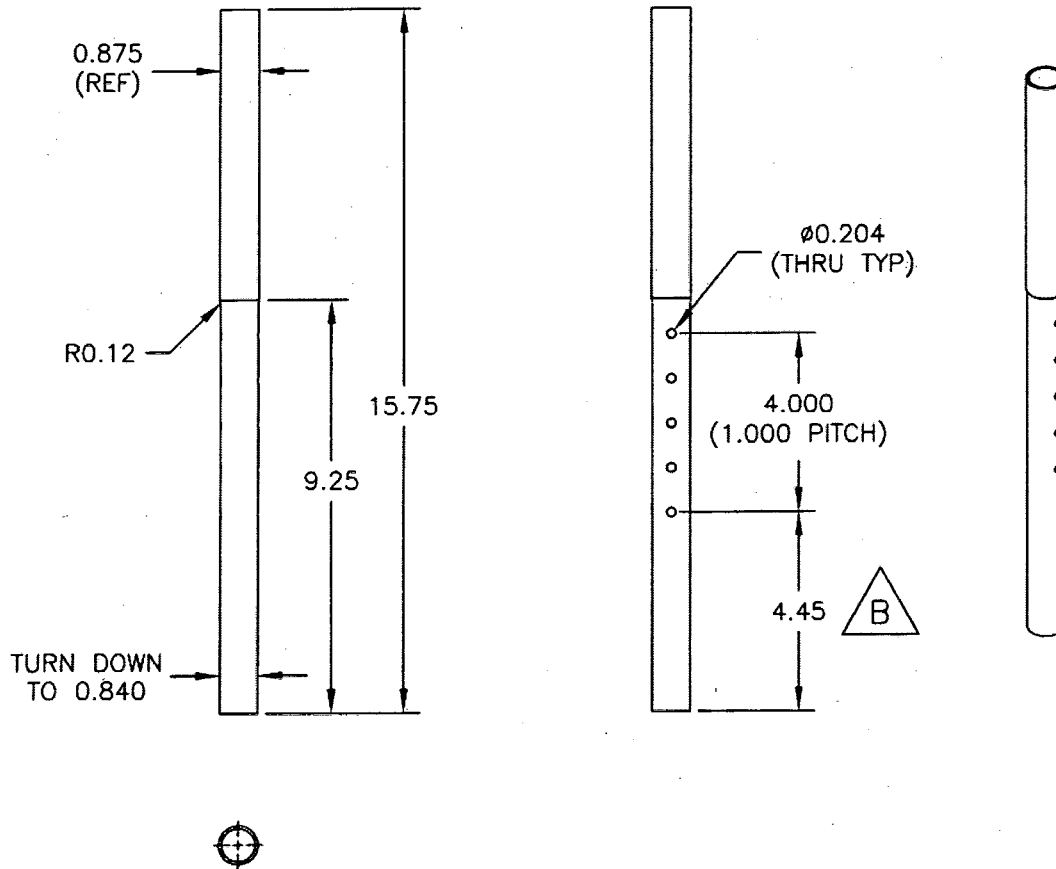
UNCONTROLLED COPY
RETURN TO:
ENGINEERING
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 44354

D3304-041/-043/-044 NOTES:

- 1) FINISH: POWDER COAT GREY SANTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 2) WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"
- 7) IF BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

DART

| | | | |
|-------------------------------|--------------------------------|---|------------------------|
| DESIGN RF | DRAWN BY RF | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED <i>[Signature]</i> | APPROVED <i>[Signature]</i> | DRAWING NO. D3304 | REV. B SHEET 2 OF 4 |
| DATE 05.07.15 | TITLE TUBE ASSEMBLY | | SCALE 1:4 |

RELEASED
05.08.11 *[Signature]***D3304-1 TUBE****D3304-1 NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE $\phi 0.875 \times 0.065$ WALL
(REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED WITHOUT NOTICE
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

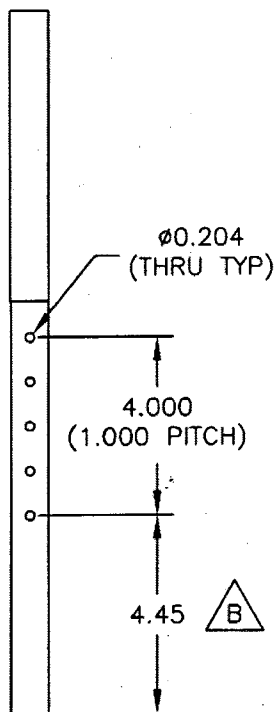
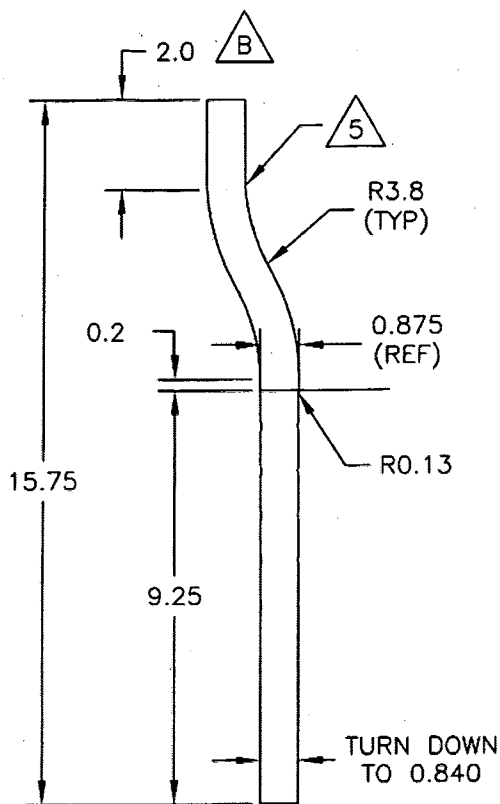
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WORK ORDER
NO. *44354*

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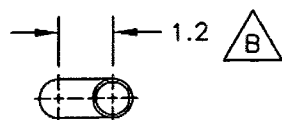
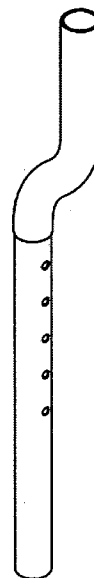
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| | | | |
|-------------------------------|--------------------------------|---|------------------------|
| DESIGN RF | DRAWN BY RF | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED <i>[Signature]</i> | APPROVED <i>[Signature]</i> | DRAWING NO. D3304 | REV. B SHEET 3 OF 4 |
| DATE 05.07.15 | | TITLE TUBE ASSEMBLY | SCALE 1:4 |



RELEASED
05-08-11 *[Signature]*



D3304-3 TUBE

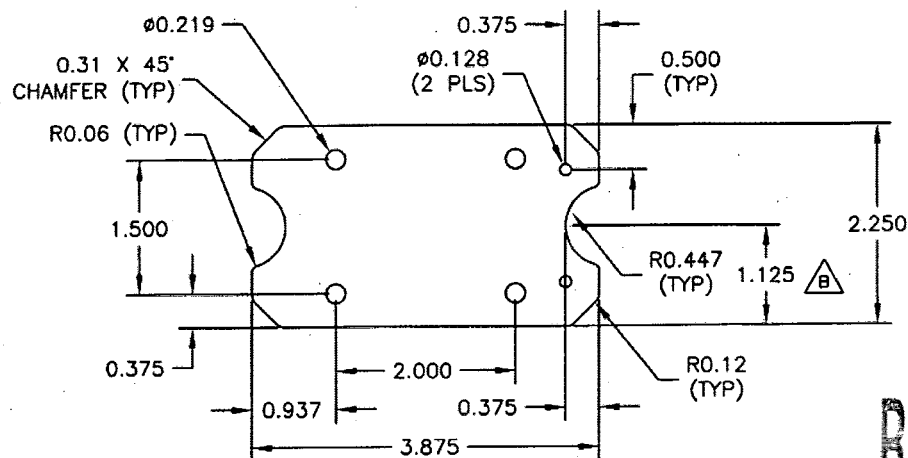
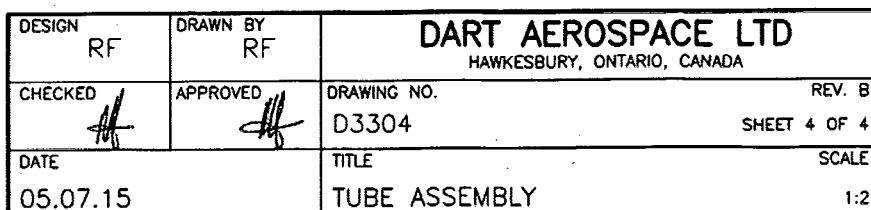
D3304-3 NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE $\phi 0.875 \times 0.065$ WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED TO AMENDMENT
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
WITHOUT NOTICE
WORK ORDER
NO. *44354*

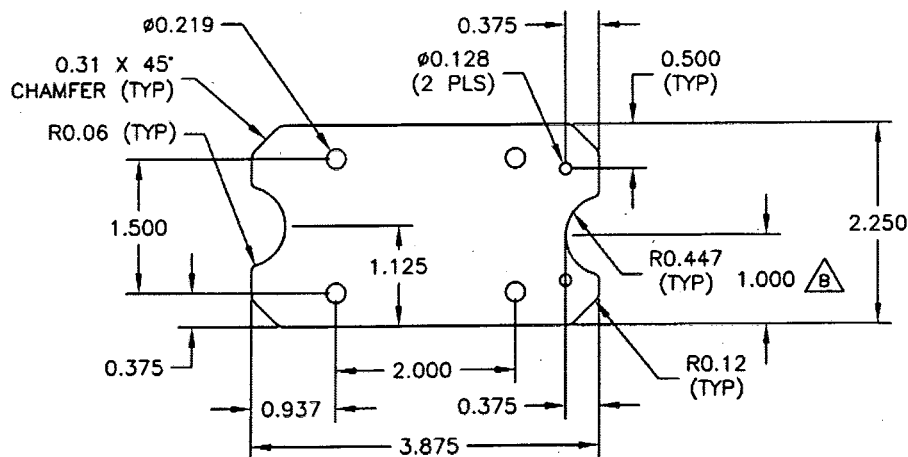
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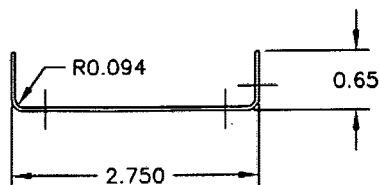


D3304-5 FLAT PATTERN


RELEASE
05-08-11



D3304-7/-8 FLAT PATTERN



D3304-5/-7 BRACKET
D3304-8 OPPOSITE


 SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 44339

NOTES:

- NOTES:
- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)
 - 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 3) ALL DIMENSIONS ARE IN INCHES
 - 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

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